

April 30, 2007

CONTECH CONSTRUCTION PRODUCTS INC.
TODD M. RIEBAU
6441 ENTERPRISE LANE SUITE 116
MADISON WI 53719

HYDROLOGIC SOLUTIONS
BOB MAESTRO

PO BOX 672
OCCOQUAN VA 22125

Re: Description: STORMWATER DETENTION AND/OR INFILTRATION SYSTEM
Manufacturer: HYDROLOGIC SOLUTIONS
Product Name: STORMCHAMBER
Model Number(s): Start Chamber, Middle Chamber, and End Chamber
Product File No: 20050612

The specifications and/or plans for this plumbing product have been reviewed and determined to be in compliance with chapters Comm 82 through 84, Wisconsin Administrative Code, and Chapters 145 and 160, Wisconsin Statutes.

The Department hereby issues an alternate approval to s. Comm 84/30 (6)(h) based on the Wisconsin Statutes and the Wisconsin Administrative Code. This approval is valid until the end of July 2010.

This approval supersedes the approval issued on July 29, 2005, under product file number 20050612.

This approval letter shall be incorporated with your previously approved plans and/or specifications approved under product file number 20050612.

This alternate approval is contingent upon compliance with the following stipulation(s):

- Prior to installation of this product, plans and specifications must be submitted to the department or to an approved agent municipality for review and approval in accordance with s. Comm 82.20 (1) of the Wis. Admin. Code. Written approval for the plans and specifications shall be obtained prior to installation of the product.
- This product submittal has been reviewed and approved for plumbing treatment standards for subsurface infiltration and irrigation using stormwater as the source, as listed in Table Comm 82.70-1.
- When this product is installed as a subsurface detention/infiltration system or an infiltration system, the design and installation must be in accordance with the manufacturer's printed StormChamber Installation Brochure by Hydrologic Solutions, ch. Comm 82 and its Plan approval under s. Comm 82.20. When there is a conflict between manufacturer's installation instructions and plan approval or product approval stipulations, the plan approval or product approval stipulations will take precedence.
- Stone aggregate used for backfill and base must be $\frac{3}{4}$ to 2 inch washed hard stone.
- Fabric used for soil/stone interface between the trench walls and top of excavation must comply with the following specifications:
Grab Tensile Strength of 90 lbs per ASTM D-4632; Grab Tensile Elongation of 50% per ASTM D4632; Mullen Burst of 225 psi per ASTM D3786; Puncture of 65 lbs per ASTM 4833; Trapezoid Tear of 45 lbs per ASTM D4533; UV Resistance of 70% per ASTM D-4355; Apparent Opening Size of 70 US Sieve per ASTM 4751; Permittivity of 2.5 Sec.-1 per ASTM D4491; and Flow Rate of 175 gal/min/sq.ft. per ASTM D 4491.

- This product is expected to produce an effluent that has less than 60 mg/L TSS for subsurface infiltration/irrigation with stormwater as the source when the influent (at 200 mg/L) and the maintenance meets the conditions listed in Table 1, entitled Stormwater and Clearwater Treatment for Hydroworks, Hydroguard HG 6.

Table 1
Stormwater and Clearwater Treatment for
Hydroworks, Hydroguard HG6

Hydroguard Series Model a	Maximum Flow in cu. ft./sec.	Suspended Solid Equivalent b	Specific Gravity of Test Material	Maintenance Interval in Months
HG 6	4.0 cfs	US Silica Sil-Co-Sil 106	2.65	12 or when TSS depth = 30"

a See Hydroguard Technical Manual (ver. 1.7; pg. 8 Figure 5).

b Where >90% particles are smaller than 75 μ m.

* This table is based on influent having 200 mg/L TSS.

- Minimum 8-inch diameter pipe must be used to discharge stormwater into the chambers. Additional connections across all rows of StormChambers must be made so the combined area of the connection pipes at least equal the area of the inflow storm drain pipe(s).
- The volume of the chamber in cubic feet is at the stated liquid depth: (liquid depth in inches / cubic feet) 1.2/3.7, 2.4/7.3, 3.6/10.8, 4.8/14.3, 6.0/17.8, 7.2/21.3, 8.4/24.7, 9.6/28.0, 10.8/31.3, 12.0/34.5, 13.5/37.7, 14.4/40.9, 15.6/44.0, 16.8/47.0, 18.0, 49.9, 19.2/52.7, 20.4/55.4, 21.6/58.0, 22.8/60.6, 24.0/63.0, 25.2/65.3, 26.4/67.4, 27.6/69.4, 28.8/71.1, 30.0/72.5, 31.2/73.4, 32.4/74.1, 33.6/74.5 and 34.04/74.6.
- The storage volume of the aggregate is calculated at 40% of the total volume of the aggregate. (i.e. 10 cubic feet of stone = 4 cubic feet of water storage)
- This product may be installed without a water proof membrane under the following conditions:
 1. The installation is for a subsurface detention system;
 2. The soils on which that detention system is placed have a maximum soil application rate of 0.2 gallons/square foot/day based upon morphological soil evaluation as listed in Comm Table 83.44-2 under the column for BOD5 and TSS > 30mg/L; and
 3. A geotextile fabric that meets the chamber manufactures specifications is place on the bottom of the product is required.

The department is in no way endorsing this product or any advertising, and is not responsible for any situation which may result from its use.

Sincerely,

Michael J. Beckwith, CIPE
Plumbing Product Reviewer
phone: 608-266-6742
fax: 608-267-9566
e-mail: mike.beckwith@wisconsin.gov